

The present invention provides a process for preparing a flame retarded thermoplastic resin which contains a fluoropolymer anti-dripping agent which is evenly dispersed throughout the thermoplastic resin. Said process comprises the preparation of a fluoropolymer concentrate by dispersing a fluoropolymer powder in a low viscosity melt of flame retardant(s) or flame retardant precursor(s).

Par. 0037 (line 3) provides that PTFE is mixed with the flame retardant under stirring. The Examples demonstrate the intensity of the stirring process, using very high mixing speed in several stages. A person skilled in the art clearly understands that dispersing said fluoropolymer through the resin can be intimate and even only if said fluoropolymer is evenly dispersed in said concentrate.

The applicant respectfully submits that the specification describes unambiguously the desirability of the fluoropolymer being evenly dispersed in the flame retardant, and the description also teaches how to achieve such dispersion.

#### Claims Rejection – 35 USC § 103

3. Claims 1-4, 6, 25, and 27 are rejected as being unpatentable over Georlette et al. (US 4,849, 134) in view of Kitahara et al. (US 6,503,988). The Applicant respectfully traverses the Examiner's novelty rejections for the following reasons.

4. The Examiner suggests that Georlette discloses antidripping agents evenly dispersed in flame retardants, while Kitahara teaches PTFE powder to be added to said Georlette's flame retardant, possibly arriving at the instant invention. However, it should be noted that Georlette does not teach any evenly dispersed antidripping agent, but a cold-compacted composition of flame retardants (claim 1) and eventually anti-dripping agents (claim 5), the composition being produced by mixing solid components without heating, while using mechanical pressure (see, for example, lines 16-20 at col. 2). No even dispersion of the antidripping agents in the flame retardants can be achieved, notwithstanding the fact that antidripping agents are added only optionally. Kitahara would have hardly inspire a person skilled in the art to modify the Georlette's cold-compacting to admix the PTFE into a heated liquid phase – without compaction of powders but with intensive stirring of a liquid.

5. None of the cited documents, nor their combination, hints at mixing components on the molecular level. The instant invention provides a continuous phase of the solidified suspension in which the fluoropolymer is evenly dispersed because it was incorporated into the flame retardant in an intensively stirred liquid phase. In Georlette et al, no melting of the flame retardant, and therefore no continuous phase exist; components are combined as powders and constitute discrete particles that adhere to each other. The difference between the product of the instant invention and the Georlette's product can be seen by examining them under microscope. The intimately homogenized components of the instant invention lead to overcoming various drawbacks of the prior art, recited in the Background of the instant application, and the advantages of the instant antidripping concentrate are demonstrated in the experimental examples. Coating (enveloping) the fluoropolymer by the molten and then solidified flame retardant provides superior properties of the flame retarding composition.

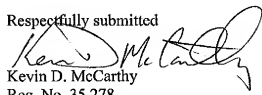
6. It is known that PTFE melts above 300°C, (see, for example, <http://en.wikipedia.org/wiki/Polytetrafluoroethylene>) it is evident to a person skilled in the art that when mixing the mixture of PTFE with a molten flame retardant at a temperature below 300°C, PTFE suspension is obtained, which can be homogenized by intensive stirring; when subsequently cooling the mixture, the flame retardant is solidified, thus "freezing" and maintaining the interspersed of the two components in the state of isolated PTFE particles surrounded by the continuous phase of the retardant. It is obvious to a skilled person, that the whole suspension is solidified when the flame retardant solidifies. The fluoropolymer powder evenly dispersed in a molten flame retardant, after cooling and solidifying, works as a superior antidripping and flame-retarding concentrate. Such a concentrate, with all its performance advantages, would not have been inspired by the cited documents, and is believed to be non-obvious.

7. As claims 7-13, 28-31, and 37-38 depend from claim 1 or from claims depending from claim 1, they are believed to be also non-obvious.

### Conclusion

In view of the above amendments and explanations, it is believed that the rejections set forth in the Office Action have been fully addressed. Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted



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